

PATENT COOPERATION TREATY

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From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

To:

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Date of mailing (day/month/year)	20.12.2004
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Applicant's or agent's file reference WO 21.1110

IMPORTANT NOTIFICATION

International application No. PCT/EP 03/10005	International filing date (day/month/year) 08.09.2003	Priority date (day/month/year) 10.09.2002
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Applicant SERVICES PETROLIERS SCHLUMBERGER

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international
preliminary examining authority:



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PATENT COOPERATION TREATY
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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference WO 21.1110	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/EP 03/10005	International filing date (<i>day/month/year</i>) 08.09.2003	Priority date (<i>day/month/year</i>) 10.09.2002
International Patent Classification (IPC) or both national classification and IPC E21B47/10		
Applicant SERVICES PETROLIERS SCHLUMBERGER		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).
- These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:
- I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 29.03.2004	Date of completion of this report 20.12.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Dantinne, P Telephone No. +31 70 340-3396 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/10005**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-8 as originally filed

Claims, Numbers

1-12 received on 18.06.2004 with letter of 14.06.2004

Drawings, Sheets

1/2-2/2 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/EP 03/10005**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	2-7,11
	No: Claims	1,8-10,12
Inventive step (IS)	Yes: Claims	3-6
	No: Claims	1-2,7-12
Industrial applicability (IA)	Yes: Claims	1-12
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP 03/10005

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

D1: GB 2.294.074 A

D2: FR 1.549.531 A

1) Document D1 discloses (the references in parentheses applying to this document):
(Fig. 1, page 7 line 31 - page 11 line 17)

A measuring sonde (10) for a hydrocarbon well, the sonde comprising a main body (12), a downstream arm (54), and an upstream arm (52), at least one of said arms being fitted with measurement means (64,48) for determining the characteristics of the fluid flowing in the well, wherein downstream and upstream arms are connected:

- to the main body via a first and second sliding pivot links (60 and 44); and
- to respectively first and second ends of a skid (32) via first and second pivot links (56 and 38).

The skid in D1 is considered to be the member between links 56 and 38. D1 discloses all technical features of claim 1 and is also suitable to perform measurements in a hydrocarbon well.

The subject-matter of claim 1 is therefore not new (Article 33(2) PCT).

2) At least dependent claims 2 and 7-12 do not appear to contain any additional features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT with respect to novelty and/or inventive step, the reasons being as follows:

claim 2: abutments to limit pivoting are known in the art.

claim 7: D2 discloses an extension arm with parallel blades linked by bridges (see fig.2).

claim 8: D1 discloses an off-center axis body relative to the well axis.

claim 9: D1 discloses a retractable sonde.

claim 10: D1 discloses the use of a motor (234) to move the arms.

claim 11: Constructional detail.

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/EP 03/10005

claim 12: D1 discloses a spinner (48) on the upstream arm.

CLAIMS

1/ A measuring sonde (1) for a hydrocarbon well, the sonde comprising a main body (2), a downstream arm (3), and an upstream arm (5), at least one of said arms being fitted with measurement means (6) for determining the characteristics of the fluid flowing in the well, the sonde being characterized in that said downstream and upstream arms are connected:

- to the main body respectively via first and second sliding pivot links (A and E); and
- to respectively first and second ends of a skid (4) via first and second pivot links (B and D).

2/ A measuring sonde according to claim 1, characterized in that pivoting of the downstream and upstream arms relative to the skid is limited by the presence of abutments on the first and second pivot links.

3/ A measuring sonde according to claim 1 or claim 2, characterized in that it has a secondary arm (7) connected firstly to the main body via a third pivot link (F) and secondly to the skid via a third sliding pivot link (C).

4/ A measuring sonde according to claim 3, characterized in that the secondary arm includes optical measurement means (8).

5/ A measuring sonde according to claim 3 or claim 4, characterized in that the secondary arm is constituted by two parallel blades.

6/ A measuring sonde according to any one of claims 3 to 5, characterized in that the secondary arm (7) can be received inside the downstream arm (3).

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7/ A measuring sonde according to any preceding claim, characterized in that the downstream arm and/or the upstream arm is/are constituted by parallel blades interconnected by bridges.

8/ A sonde according to any preceding claim, characterized in that the axis of the main body (2) is off-center relative to the axis of the well.

9/ A measuring sonde according to any preceding claim, characterized in that the downstream and upstream arms are pivoted relative to the main body in a closed position in which the arms are received inside said main body and an open position in which said arms extend across the stream flowing along the well.

10/ A measuring sonde according to any preceding claim, characterized in that the downstream arm and/or the upstream arm is/are connected to a motor module (9) enabling arm movement relative to the main body to be controlled, said motor module being deactivatable.

11/ A measuring sonde according to claim 10, characterized in that the connection between the motor module and the downstream and/or upstream arms is separable.

12/ A measuring sonde according to any preceding claim, characterized in that the upstream arm has measurement means (6) for measuring the speed of the fluid flowing in the well.

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